




Exhibit 3

Charted Claims

Non-Method Claim: 1


US8788360	Apple's iPhone XS ("The Accused Product")
<p>1. A system for processing a wireless request over a network based on a human-perceptible advertisement for advertising to consumers a product or service offered by a vendor, the advertisement attached with at least one radio frequency identification (RFID) tag, the at least one RFID tag being configured to transmit a wireless identification transmission signal representing information</p>	<p>The accused product utilizes a system (e.g., background tag reading) for processing a wireless request (e.g., request to delivers the tag data to the appropriate app by a user tapping the notification obtained from NFC data) over a network based on a human-perceptible advertisement (e.g., URI record containing either a universal link or a supported URL scheme corresponding to a product or service) for advertising to consumers a product or service offered by a vendor , the advertisement (e.g., URI record containing either a universal link or a supported URL scheme corresponding to a product or service) attached with at least one radio frequency identification (RFID) tag (e.g., NFC tag), the at least one RFID tag (e.g., NFC tag) being configured to transmit a wireless identification transmission signal (e.g., a pop-up notification each time it reads a new tag) representing information pertaining to the product or service (e.g., URI record containing either a universal link or a supported URL scheme corresponding to a product or service) offered by a vendor comprising:</p> <p>As shown below, Apple's iPhone XS supports Background Tag Reading that delivers a pop-up notification that contains URI record containing either a universal link or a supported URL scheme corresponding to a product or service (i.e., advertisement). Upon clicking/tapping the notification, the system launches the app that supports the URL scheme.</p>

pertaining to the product or service offered by a vendor comprising:

 [Store](#) [Mac](#) [iPad](#) [iPhone](#) [Watch](#) [Vision](#) [AirPods](#) [TV & Home](#) [Entertainment](#) [Accessories](#) [Support](#)  

iPhone XS – Technical Specifications

Languages English



Finish

- Gold
- Space Gray
- Silver

Capacity¹

- 64GB
- 256GB
- 512GB

Size and Weight²

- Width: 2.79 inches (70.9 mm)
- Height: 5.65 inches (143.6 mm)

https://support.apple.com/kb/SP779?locale=en_US

	<ul style="list-style-type: none">▪ Model A1921* FDD-LTE (Bands 1, 2, 3, 4, 5, 7, 8, 12, 13, 14, 17, 18, 19, 20, 25, 26, 29, 30, 32, 66, 71) TD-LTE (Bands 34, 38, 39, 40, 41, 46) CDMA EV-DO Rev. A (800, 1900 MHz) UMTS/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz) GSM/EDGE (850, 900, 1800, 1900 MHz)▪ All models Gigabit-class LTE with 4x4 MIMO and LAA⁴ 802.11ac Wi-Fi with 2x2 MIMO Bluetooth 5.0 wireless technology NFC with reader mode Express Cards with power reserve <p>https://support.apple.com/kb/SP779?locale=en_US</p>
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Adding Support for Background Tag Reading

Allow users to scan NFC tags without an app using background tag reading.

Overview

On iPhones that support background tag reading, the system scans for and reads NFC data without requiring users to scan tags using an app. The system displays a pop-up notification each time it reads a new tag. After the user taps the notification, the system delivers the tag data to the appropriate app. If the iPhone is locked, the system prompts the user to unlock the phone before providing the tag data to the app.

Note

iPhone XS and later support background tag reading.

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

Process Scanned Tags

After the device scans an NFC tag while in background tag reading mode, the system inspects the tag's NDEF message for a URI record by looking for an `NFCNDEFPayload` object with the following property values:

- `typeNameFormat` equal to `NFCTypeNameFormat.nfcWellKnown`
- `type` equal to "U"

If the NDEF message contains more than one URI record, the system uses the first one. The URI record must contain either a universal link or a supported URL scheme.

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

Use Universal Links

For universal links, the system launches (or brings to the foreground) the app associated with the universal link after the user taps the notification. The system sends the NDEF message to the app as an `NSUserActivity` object. If there are no installed apps associated with the universal link, the system opens the link in Safari.

advertisement for advertising to consumers a product or service offered by a vendor

Use URL Schemes

The system processes NDEF payloads containing a URI for a URL scheme in the same way as universal links. The system displays a notification after reading the tag. When the user taps the notification, the system launches the app that supports the URL scheme.

Background tag reading supports the following URL schemes:

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

URL Scheme	Example	
Website URL (HTTP/HTTPS)	https://www.example.com	
Email	mailto:user@example.com	advertisement for advertising to consumers a product or service offered by a vendor
SMS	sms:+14085551212	
Telephone	tel:+14085551212	
FaceTime	facetime://user@example.com	
FaceTime Audio	facetime-audio://user@example.com	
Maps	http://maps.apple.com/?address=Apple%20Park,Cupertino,California	
HomeKit Accessory Setup	X-HM://12345	

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

Near Field Communication Technology Standards

When developing near field communication devices and new technology, NFC standards must be met. Standards exist to ensure all forms of near field communication technology can interact with other NFC compatible devices and will work with newer devices in the future. Two major specifications exist for NFC technology: ISO/IEC 14443 and ISO/IEC 18000-3. The first defines the ID cards used to store information, such as that found in NFC tags. The latter specifies the RFID communication used by NFC devices.

ISO/IEC 18000-3 is an international standard for all devices communicating wirelessly at the 13.56MHz frequency using Type A or Type B cards, as near field communication does. The devices must be within 4cm of each other before they can transmit information. The standards explain how a device and the NFC tag it is reading should communicate with one another. The device is known as the interrogating device while the NFC tag is simply referred to as the tag.

<http://nearfieldcommunication.org/technology.html>

The two devices create a high frequency magnetic field between the loosely coupled coils in both the interrogating device and the NFC tag. Once this field is established, a connection is formed and information can be passed between the interrogator and the tag. The interrogator sends the first message to the tag to find out what type of communication the tag uses, such as Type A or Type B. When the tag responds, the interrogator sends its first commands in the appropriate specification.

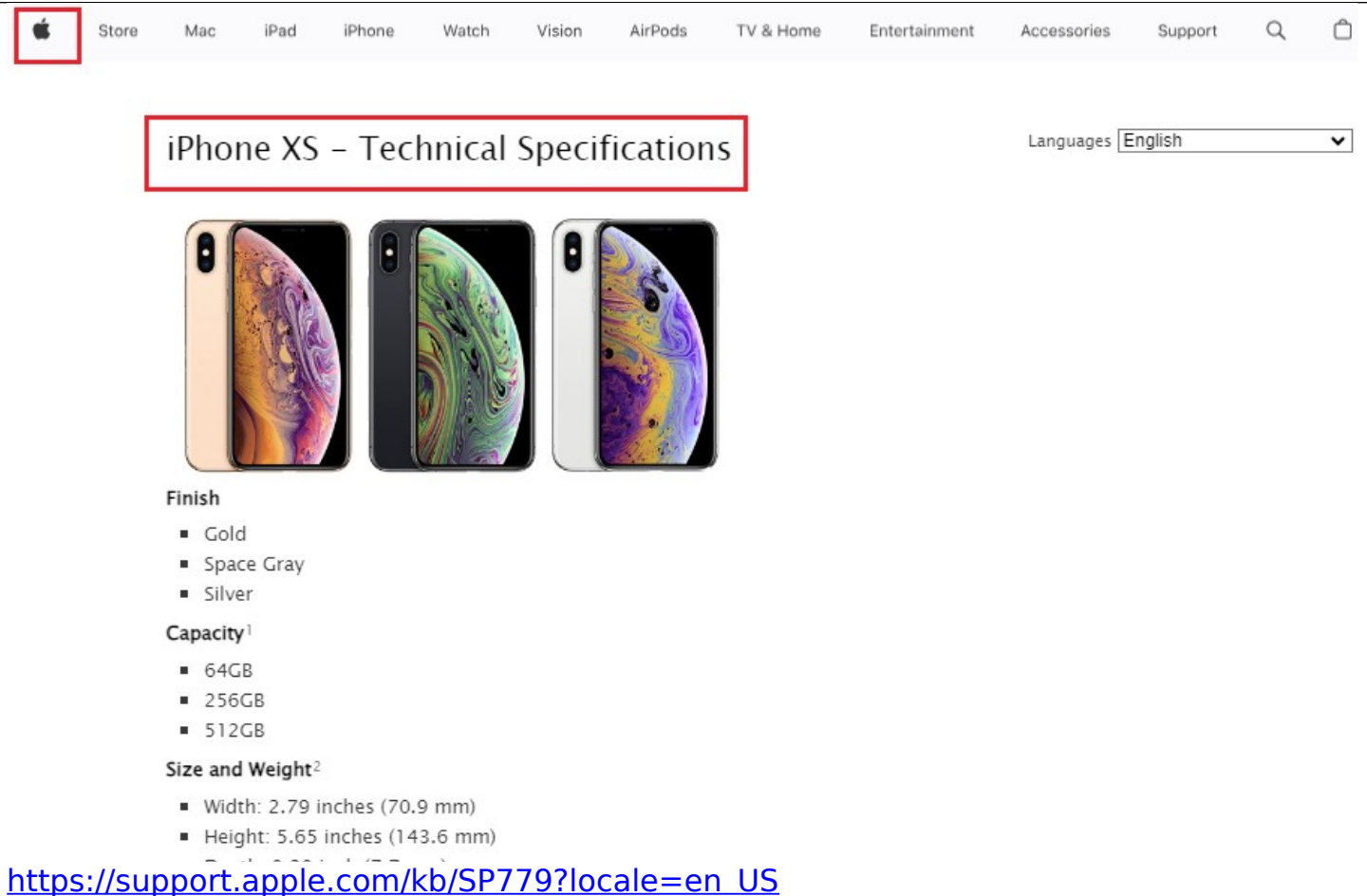
The tag receives the instruction and checks if it is valid. If not, nothing occurs. If it is a valid request, the tag then responds with the requested information. For sensitive transactions such as credit card payments, a secure communication channel is first established and all information sent is encrypted.

NFC tags function at half duplex while the interrogator functions at full duplex. Half duplex refers to a device that can only send or receive, but not both at once. Full duplex can do both simultaneously. A NFC tag can only receive or send a signal, while the interrogating device can receive a signal at the same time it sends a command. Commands are transmitted from the interrogator using PJM (phase jitter modulation) to modify the surrounding field and send out a signal. The tag answers using inductive coupling by sending a charge through the coils in it. Meeting these specifications ensures all NFC devices and tags can communicate effectively with one another.

	<p>http://nearfieldcommunication.org/technology.html</p> <p>ISO/IEC 18000-63:2013 specifies the physical and logical requirements for a passive-backscatter, Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags, also known as labels. An Interrogator receives information from a tag by transmitting a continuous-wave (CW) RF signal to the tag; <u>the tag responds by modulating the reflection coefficient of its antenna, thereby backscattering an information signal to the Interrogator</u>. The system is ITF, meaning that a tag modulates its antenna reflection coefficient with an information signal only after being directed to do so by an Interrogator.</p> <p>ISO/IEC 18000-63:2013 contains Type C.</p> <p>Type C uses PIE in the forward link and a random slotted collision-arbitration algorithm.</p> <p>ISO/IEC 18000-63:2013 specifies https://www.iso.org/standard/59643.html</p>
mobile ordering device of a human consumer who perceives the human-perceptible advertisement, the mobile	<p>The accused product is a mobile ordering device (e.g., Apple's iPhone XS) of a human consumer who perceives the human-perceptible advertisement (e.g., URI record containing either a universal link or a supported URL scheme corresponding to a product or service), the mobile ordering device (e.g., Apple's iPhone XS) comprising a radio frequency identification reader (e.g., Apple's iPhone XS operating on a NFC reader mode (i.e., NFC Tag Reader)) configured to transmit a signal (e.g., transmitting a continuous-wave (CW) RF signal during scanning of tags) to the at least one RFID tag (e.g., NFC tag) attached with the advertisement (e.g., URI record containing either a universal link or a supported URL scheme corresponding to a product or service) and to</p>

<p>ordering device comprising a radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag the wireless identification transmission signal corresponding to the advertisement and representing information pertaining to the product or service offered by the vendor, the mobile ordering device further</p>	<p>receive in response (e.g., responds) from the at least one RFID tag (e.g., NFC tag) the wireless identification transmission signal (e.g., a pop-up notification each time it reads a new tag) corresponding to the advertisement (e.g., URI record containing either a universal link or a supported URL scheme corresponding to a product or service) and representing information pertaining to the product or service offered by the vendor, the mobile ordering device (e.g., Apple's iPhone XS) further configured to accept input (e.g., user taps the notification) from a consumer, generate an electronic request (e.g., request to delivers the tag data to the appropriate app) with the received information from the wireless identification transmission signal (e.g., a pop-up notification each time it reads a new tag) and communicate the request (e.g., request to delivers the tag data to the appropriate app) to and receive a response (e.g., launching the app that supports the URL scheme or opening the link in Safari) from a commerce data system (e.g., appropriate app providing an access to universal link or a supported URL scheme) across a network (e.g., RFID communication used by Near Field Communication (NFC) technology).</p> <p>As shown below, Apple's iPhone XS (i.e., mobile ordering device) supports Background Tag Reading which enables the device to operate on a reader mode (i.e., radio frequency identification reader) wherein the system scans for and reads NFC data from the nearby new NFC Tags (i.e., RFID tag). The system displays a pop-up notification (i.e., wireless identification transmission signal corresponding to the advertisement and representing information pertaining to the product or service) each time it reads a new tag, which contains URI record containing either a universal link or a supported URL scheme corresponding to a product or service (i.e., to the advertisement and representing information pertaining to the product or service). Upon clicking/tapping the notification (i.e., accept input from a consumer, generate an electronic request), the system launches the app that supports the URL scheme or the system opens the link in Safari (e.g., response) from a universal link or a supported URL scheme provider namely, Facetime, Maps, HomeKit etc.(i.e., commerce data system).</p>
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configured to accept input from a consumer, generate an electronic request with the received information from the wireless identification transmission signal and communicate the request to and receive a response from a commerce data system across a network;



Store Mac iPad iPhone Watch Vision AirPods TV & Home Entertainment Accessories Support

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Size and Weight²

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Adding Support for Background Tag Reading

Allow users to scan NFC tags without an app using background tag reading.

Overview

the mobile ordering device comprising a radio frequency identification reader configured to transmit a signal to the at least one RFID tag

On iPhones that support background tag reading, the system scans for and reads NFC data without requiring users to scan tags using an app. The system displays a pop-up notification each time it reads a new tag. After the user taps the notification, the system delivers the tag data to the appropriate app. If the iPhone is locked, the system prompts the user to unlock the phone before providing the tag data to the app.

Note

iPhone XS and later support background tag reading.

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

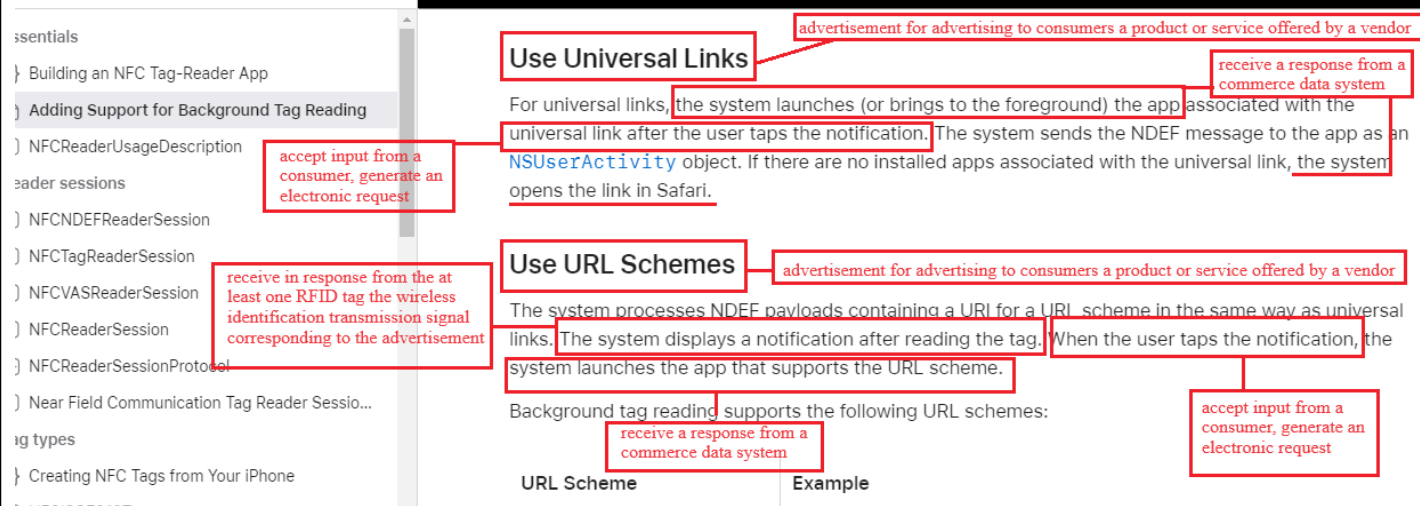
Process Scanned Tags

After the device scans an NFC tag while in background tag reading mode, the system inspects the tag's NDEF message for a URI record by looking for an `NFCNDEFPayload` object with the following property values:

- `typeNameFormat` equal to `NFCTypeNameFormat.nfcWellKnown`
- `type` equal to "U"

If the NDEF message contains more than one URI record, the system uses the first one. The URI record must contain either a universal link or a supported URL scheme.

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https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

URL Scheme	Example
Website URL (HTTP/HTTPS)	https://www.example.com
Email	mailto:user@example.com
SMS	sms:+14085551212
Telephone	tel:+14085551212
FaceTime	facetime://user@example.com
FaceTime Audio	facetime-audio://user@example.com
Maps	http://maps.apple.com/?address=Apple%20Park,Cupertino,California
HomeKit Accessory Setup	X-HM://12345

receive a response from a commerce data system associated with the wireless identification transmission signal

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

Near Field Communication Technology Standards

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ISO/IEC 18000-3 is an international standard for all devices communicating wirelessly at the 13.56MHz frequency using Type A or Type B cards, as near field communication does. The devices must be within 4cm of each other before they can transmit information. The standards explain how a device and the NFC tag it is reading should communicate with one another. The device is known as the interrogating device while the NFC tag is simply referred to as the tag.

<http://nearfieldcommunication.org/technology.html>

The two devices create a high frequency magnetic field between the loosely coupled coils in both the interrogating device and the NFC tag. Once this field is established, a connection is formed and information can be passed between the interrogator and the tag. The interrogator sends the first message to the tag to find out what type of communication the tag uses, such as Type A or Type B. When the tag responds, the interrogator sends its first commands in the appropriate specification.

The tag receives the instruction and checks if it is valid. If not, nothing occurs. If it is a valid request, the tag then responds with the requested information. For sensitive transactions such as credit card payments, a secure communication channel is first established and all information sent is encrypted.

NFC tags function at half duplex while the interrogator functions at full duplex. Half duplex refers to a device that can only send or receive, but not both at once. Full duplex can do both simultaneously. A NFC tag can only receive or send a signal, while the interrogating device can receive a signal at the same time it sends a command. Commands are transmitted from the interrogator using PJM (phase jitter modulation) to modify the surrounding field and send out a signal. The tag answers using inductive coupling by sending a charge through the coils in it. Meeting these specifications ensures all NFC devices and tags can communicate effectively with one another.

a radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag the wireless identification transmission signal

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	<p>ISO/IEC 18000-63:2013 specifies the physical and logical requirements for a passive-backscatter, Interrogator-Talks-First (ITF) systems. The system comprises Interrogators, also known as readers, and tags, also known as labels. <u>An Interrogator receives information from a tag by transmitting a continuous-wave (CW) RF signal to the tag; the tag responds by modulating the reflection coefficient of its antenna, thereby backscattering an information signal to the Interrogator.</u> The system is ITF, meaning that a tag modulates its antenna reflection coefficient with an information signal only after being directed to do so by an Interrogator.</p> <p>ISO/IEC 18000-63:2013 contains Type C. <small>radio frequency identification reader configured to transmit a signal to the at least one RFID tag attached with the advertisement and to receive in response from the at least one RFID tag</small></p> <p>Type C uses P1E in the forward link and a random slotted collision-arbitration</p> <p>https://www.iso.org/standard/59643.html</p>
<p>the mobile ordering device in communication with the commerce data system, the commerce data system for receiving and processing the request of the mobile ordering device across</p>	<p>The accused product discloses the mobile ordering device (e.g., Apple's iPhone XS) in communication with the commerce data system (e.g., appropriate app providing an access to universal link or a supported URL scheme), the commerce data system (e.g., appropriate app providing an access to universal link or a supported URL scheme) for receiving and processing the request (e.g., request to delivers the tag data to the appropriate app by a user tapping the notification) of the mobile ordering device (e.g., Apple's iPhone XS) across the network (e.g., internet), and responding to the request (e.g., request to delivers the tag data to the appropriate app by a user tapping the notification) by sending information (e.g., launching the app that supports the URL scheme or opening the link in Safari) to the mobile ordering device (e.g., Apple's iPhone XS) via the network, the information associated with the wireless identification transmission signal (e.g., a pop-up notification each time it reads a new tag).</p> <p>As shown below, Apple's iPhone XS (i.e., mobile ordering device) supports Background</p>

the network, and responding to the request by sending information to the mobile ordering device via the network, the information associated with the wireless identification transmission signal.

Tag Reading system displaying a pop-up notification (i.e., wireless identification transmission signal corresponding to the advertisement and representing information pertaining to the product or service) each time it reads a new tag. Upon clicking/tapping the notification (i.e., accept input from a consumer, generate an electronic request), the system launches the app that supports the URL scheme or the system opens the link in Safari (e.g., response) from a universal link or a supported URL scheme provider/app namely, Facetime, Maps, HomeKit etc. (i.e., commerce data system).

Documentation / Core NFC / Adding Support for Background Tag Reading Language: Swift ▾ API Changes: N

Adding Support for Background Tag Reading

Allow users to scan NFC tags without an app using background tag reading.

Overview

the mobile ordering device comprising a radio frequency identification reader configured to transmit a signal to the at least one RFID tag

On iPhones that support background tag reading, the system scans for and reads NFC data without requiring users to scan tags using an app. The system displays a pop-up notification each time it reads a new tag. After the user taps the notification, the system delivers the tag data to the appropriate app. If the iPhone is locked, the system prompts the user to unlock the phone before providing the tag data to the app.

Note

iPhone XS and later support background tag reading.

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading

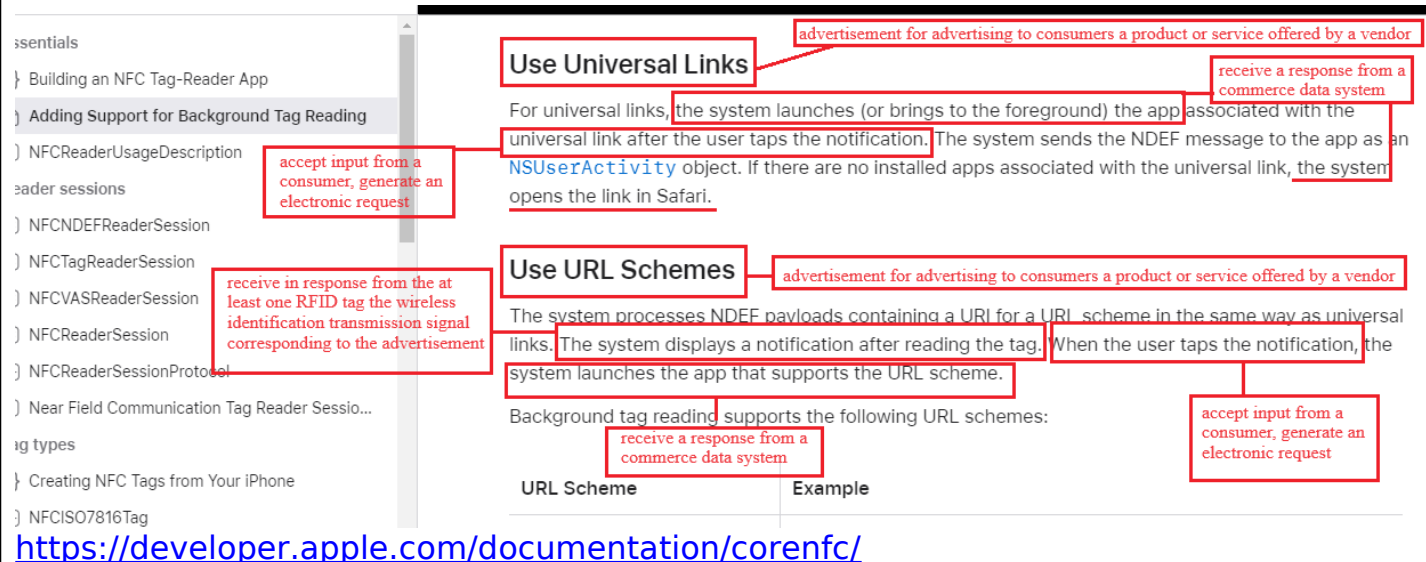
Process Scanned Tags

After the device scans an NFC tag while in background tag reading mode, the system inspects the tag's NDEF message for a URI record by looking for an `NFCNDEFPayload` object with the following property values:

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If the NDEF message contains more than one URI record, the system uses the first one. The URI record must contain either a universal link or a supported URL scheme.

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading



[adding_support_for_background_tag_reading](#)

URL Scheme	Example
Website URL (HTTP/HTTPS)	https://www.example.com
Email	mailto:user@example.com
SMS	sms:+14085551212
Telephone	tel:+14085551212
FaceTime	facetime://user@example.com
FaceTime Audio	facetime-audio://user@example.com
Maps	http://maps.apple.com/?address=Apple%20Park,Cupertino,California
HomeKit Accessory Setup	X-HM://12345

receive a response from a commerce data system associated with the wireless identification transmission signal

https://developer.apple.com/documentation/corenfc/adding_support_for_background_tag_reading